

## METHODS FOR FORMING SEMICONDUCTOR DEVICES INCLUDING THERMAL PROCESSING

### Abstract

5           Methods for fabricating semiconductor memory devices may include  
forming a first conductive layer for a first electrode on a semiconductor substrate,  
forming a dielectric layer on the first conductive layer, and forming a second  
conductive layer for a second electrode on the dielectric layer. Portions of the  
second conductive layer and the dielectric layer can be removed, and a thermal  
10   process can be performed on the second conductive layer and the dielectric layer.  
The thermal process can reduce interface stress between the second conductive  
layer and the dielectric layer and/or cure the dielectric layer. In addition, the  
dielectric layer may be maintained in an amorphous state during and after the  
thermal process.